CLAIMS

1. An apparatus, comprising:

a) a two-part pad, comprising

i) a first pad, which is rectangular, metallic, about 50 microns x 50 microns, and about 1 micron thick; and

ii) a second pad, which is rectangular, metallic, about 30 x 30 microns, about 1 micron thick, and having one edge coinciding with part of an edge of the first pad; and

c) a semiconductor substrate supporting the two-part pad.

2. Apparatus according to claim 1, wherein damage occurring to the first pad does not inhibit wetting of solder to the second pad.

3. Apparatus according to claim 1, and further comprising electronic circuitry supported by the semiconductor substrate, and a trace connecting to the two-part pad.

4. Apparatus according to claim 3, wherein damage occurring to the first pad as a result of testing of the electronic circuitry does not inhibit wetting of solder to the second pad.

5. A method, comprising:

a) on a semiconductor substrate, constructing a pad which connects to a trace, the pad containing

i) a body, and

ii) a head electrically connected to the body;

b) communicating with the trace by applying a probe to the body; and

c) connecting an external component to the trace by flip-chip bonding to the head.

6. Method according to claim 5, wherein the probe is not applied to the head.

7. Method according to claim 5, wherein the flip-chip bonding does not involve the body.

8. Method according to claim 5, wherein the probe is not applied to the head, and the flip-chip bonding does not involve the body.

9. An apparatus, comprising:

a) a die containing one, or more, integrated circuits;

b) on a surface of the die, a metallic pad having

i) a first region bearing a fused material which connects to a second pad; and

ii) a second region lacking fused material.

10. Apparatus according to claim 9, wherein the first region has an area less than 1600 square microns, and the second region has an area greater than 1600 square microns.

11. Apparatus according to claim 9, wherein the first and second regions are generally rectangular in shape, and share a common border.

12. Apparatus according to claim 9, wherein the die comprises crystalline silicon, the integrated circuit comprises a driver for lasers, and further comprising:

c) a second die, containing

i) lasers, and

ii) a pad connecting to said fused material.

13. Apparatus, comprising:

a) a first array of metallic pads A, supported by a first substrate;

b) a second array of metallic pads B, supported by a second substrate, each pad B connected to a respective pad A by a solder bond;

c) a third array of metallic pads C, each pad C supported by the first substrate and electrically connected to a respective pad A;

d) a control circuit which delivers signals to the pads A; and

e) an array of optoelectronic devices, each connected to a respective pad B.

14. Apparatus according to claim 13, and further comprising

f) a fourth array of metallic pads D, each pad D supported by the second substrate and electrically connected to a respective pad B.

15. Apparatus according to claim 13, wherein each pad B is about 30 x 30 microns, and 1 micron thick.

16. Apparatus according to claim 13, wherein each pad C is about 30 x 30 microns, and 1 micron thick.

17. Apparatus according to claim 16, wherein each pad C is separated from its neighbor by about 100 microns.